



PATENT
Attorney Docket No. STK-008CN
(7557/16)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Oppermann et al.
SERIAL NO.: 09/754,831 GROUP NO.: 1647
FILING DATE: January 3, 2001 EXAMINER: Not Yet Assigned
TITLE: OSTEOGENIC DEVICES

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FEB 13 2003

Commissioner for Patents
Washington, D.C. 20231

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INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. Each of the listed documents was either previously cited by the Examiner or submitted for consideration in the application from which this application claims priority under 35 U.S.C. § 120, namely, USSN 08/375,901. Accordingly, pursuant to 37 C.F.R. § 1.98(d), Applicants have not supplied copies of the documents listed on the attached Form PTO-1449, but shall do so upon request.

REMARKS

In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed:

- ☒ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office action** on the merits, or before the mailing of a **first Office action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or
- ☐ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**

- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or
- ☐ (3) after the mailing date of a **final action** or **notice of allowance** but before the payment of the **issue fee**, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite petition fee under 37 C.F.R. 1.17(p), namely **\$180.00** is included herein.

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

STATEMENT

As required under 37 C.F.R. 1.97(e), Applicant(s), through the undersigned, hereby state either that:

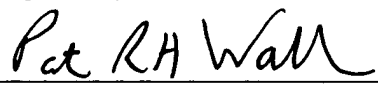
- ☐ 1. Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application **not more than three months** prior to the filing of the Information Disclosure Statement; or
- ☐ 2. No item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this Statement after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to **any individual** designated in 37 C.F.R. 1.56(c) **more than three months** prior to the filing of the Information Disclosure Statement.

Date: February 5, 2003
Reg. No.: 41,418

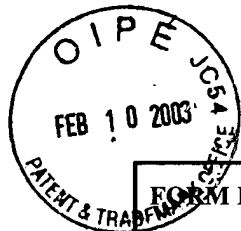
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2566036-1

Respectfully submitted,



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FORM PTO - 1449				ATTORNEY DOCKET NO.: STK-008CN			
INFORMATION DISCLOSURE STATEMENT				APPLICANT: Oppermann et al.			
				SERIAL NO.: 09/754,831			
				FILING DATE: 1/3/01		GROUP: 1647	
U.S. PATENT DOCUMENTS							
EXAM. INIT.		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	A1	4,294,753	10/13/81	Urist	530	395	
	A2	4,394,370	7/19/83	Jefferies	424	15	
	A3	4,434,094	2/28/84	Seyedin et al.	530	416	
	A4	4,455,256	6/19/84	Urist	530	350	
	A5	4,563,350	1/7/86	Nathan et al.	424	95	
	A6	4,563,489	1/7/86	Urist	524	21	
	A7	4,774,322	9/27/88	Seyedin et al.	530	353	
	A8	4,795,804	1/3/89	Urist	530	350	
	A9	4,804,744	2/14/89	Sen	530	350	
	A10	4,810,691	3/7/89	Seyedin et al.	514	2	
	A11	8,843,063	6/27/89	Seyedin et al.	514	2	
	A12	4,877,864	10/31/89	Wang et al.	530	324	
	A13	5,013,649	5/7/91	Wang et al.	435	69.1	
	A14	5,106,626	4/21/92	Parsons et al.	424	423	
	A15	5,106,748	4/21/92	Wozney et al.	435	252.3	
	A16	5,108,922	4/28/92	Wang et al.	435	240	
	A17	5,116,738	5/26/92	Wang et al.	435	69.1	
	A18	5,141,905	8/25/92	Rosen et al.	435	69.1	
	A19	5,154,931	10/13/92	Kruger et al.			
	A20	5,166,058	11/24/92	Wang et al.	435	69.1	
	A21	5,187,076	2/16/93	Wozney et al.	435	69.1	
	A22	5,250,302	10/5/93	Opperman et al.	424	422	
	A23	5,366,875	11/22/94	Wozney et al.			
	A24	5,585,237	12/17/96	Oppermann et al.	435	6	
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FOREIGN PATENT DOCUMENTS

EXAM. INIT.		DOCUMENT NUMBER	DATE	COUNTRY CODE	CLASS	SUB CLASS	FILING DATE	ABSTRACT ONLY	ENGLISH LANG (Y/N)
	B1	85/05274	12/5/85	PCT					
	B2	86/00526	1/30/86	PCT					
	B3	88/00205	1/14/88	PCT					
	B4	89/09605	10/19/89	PCT					
	B5	89/10409	11/2/89	PCT					
	B6	90/03733	4/19/90	PCT					
	B7	90/11366	10/4/90	PCT					
	B8	91/02744	3/7/91	PCT					
	B9	93/00049	1/7/93	PCT					
	B10	0128041	12/12/84	EP					
	B11	0148155	7/10/85	EP					
	B12	0169016	1/22/86	EP					
	B13	0182483	5/28/86	EP					
	B14	0212474	3/4/87	EP					

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OTHER ART, JOURNAL ARTICLES, ETC.

EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	
	C1	Canalis et al., "Stimulation of DNA and Collagen Synthesis by Antologous Growth Factor in Cultured Fetal Rat Calvaria," <u>Science</u> 210:1021-1023 (1980).
	C2	Centrella, "Transforming and Nontransforming Growth Factors are Present in Medium Conditioned by Fetal Rat Calvariae," <u>Proc. Natl. Acad. Sci. USA</u> 82:7335-7339 (1985).
	C3	Colowick et al., <u>Methods in Enzymology</u> 146:294-312 (1987).
	C4	Farley et al., "Human Skeletal Growth Factor: Characterization of Mitogenic Effect on Bone Cells In Vitro," <u>Biochem.</u> 21:3508-3513 (1982).
	C5	Glowacki et al., "Application of the Biological Principle of Induced Osteogenesis for Craniofacial Defects," <u>Lancet</u> 1:959-963 (1981).

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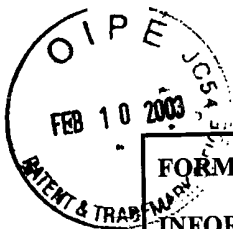
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EXAM. INIT.	OTHER DOCUMENTS: (Including Author, Title, Date, Relevant Pages, Place of Publication)	
	C6	Klausner, "Collagen Corp. Isolates Cartilage Inducers," <u>Biotechnology</u> 3:567-568 (1985).
	C7	LeGendre et al., "Direct Protein Microsequencing from Immobilon-P Transfer Membrane," <u>Biotechniques</u> 6:154-159 (1988).
	C8	Lyons et al., "Vgr-1, A Mammalian Gene Related to Xenopus Vg-1, Is A Member of the Transforming Growth Factor B Gene Superfamily," <u>Proc. Natl. Acad. Sci. USA</u> 86:4554-4558 (1989).
	C9	Maugh, "Human Skeletal Growth Factor Isolated," <u>Science</u> 217:819 (1982).
	C10	Olson et al., "Deglycosylation of Chondroitin Sulfate Proteoglycan by Hydrogen Fluoride in Pyridine," <u>Analyt. Biochem.</u> 146:232-257 (1985).
	C11	Padgett et al., "A Transcript From A Drosophila Pattern Gene Predicts A Protein Homologous To The Transforming Growth Factor-B Family," <u>Nature</u> 325:81-84 (1987).
	C12	Reddi, "Cell Biology and Biochemistry of Endochondral Bone Development," <u>Collage Rel. Res.</u> 1:209-226 (1981).
	C13	Reddi, "Implant-Stimulated Interface Reactions During Collagens Bone Matrix-Induced Bone Formation," <u>Journal of Biomedical Materials Research</u> 19:233-239 (1985).
	C14	Rosen et al., "Purification and Molecular Cloning of a Novel Group of BMPs", <u>Connect. Tissue Res.</u> 20:313-319 (1989).
	C15	Rudinger, "Characteristics of the Amino Acids as Components of a Peptide Hormone Sequence," <u>Peptide Hormones (Parsons, et al. ed.), University Park Press, Baltimore</u> , 1-7 (1976).
	C16	Sampath et al., "Dissociative Extraction and Reconstitution of Extracellular Matrix Components Involved in Local Bone Differentiation," <u>Proc. Natl. Acad. Sci. USA</u> 78:7599-7603 (1981).
	C17	Sampath et al., "Drosophila Transforming Growth Factor β Superfamily Proteins," <u>Proc. Natl. Acad. Sci. USA</u> 90:6004-6008 (July 1993).
	C18	Sampath et al., "Isolation of Osteogenin, An Extracellular Matrix-Associated, Bone-Inductive Protein, by Heparin Affinity Chromatography," <u>Proc. Natl. Acad. Sci. USA</u> 84:7109-7113 (1987).
	C19	Sampath et al., "Role of Extracellular Matrix Components in Cartilage and Bone Induction," <u>Extracellular Matrix: Structure and Function (A.H. Reddi Ec.) Allen R. Liss, Publ., NY</u> 412-428 (1985).
	C20	Sampath et al., "Homology of Bone-Inductive Proteins from Human, Monkey, Bovine, and Extracellular Matrix," <u>Proc. Natl. Acad. Sci. USA</u> , 80:6591-6595 (1983).
	C21	Seyedin et al, "In Vitro Induction of Cartilage-Specific Macromolecules by a Bone Extract," <u>Proc. Natl. Acad. Sci. USA</u> 82:2267-2271 (1985).
EXAMINER		DATE CONSIDERED



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	C22	Seyedin et al., "Purification and Characterization of Two Cartilage-Inducing Factors from Bovine Demineralized Bone," <u>J. Cell Biol.</u> 97:1950-1953 (1983).	
	C23	Simpson, "Growth Factors Which Affect Bone," <u>Trends Biochem. Sci.</u> 9:527-530 (1984).	
	C24	Urist et al., "B-tricalcium Phosphate Delivery System for Bone Morphogenetic Protein," <u>Clin. Orth. Rel. Res.</u> 187:277-280 (1984).	
	C25	Urist et al., "Human Bone Morphogenic Protein (hBMP)," <u>Proc. Soc. Exp. Bio. Med.</u> 173:194-199 (1983).	
	C26	Urist et al., "Purification of Bovine Bone Morphogenetic Protein by Hydroxyapatite Chromatography," <u>Proc. Natl. Acad. Sci. USA</u> 81:371-375 (1984).	
	C27	Wang et al., "Purification and Characterization of Cartilage and Bone Inducing Factors," <u>Calcified Tissue Int. (Suppl)</u> Ab No. 146, ppA37 (1988).	
	C28	Wang et al., "Purification and Characterization of Other Distinct Bone-Inducing Factors," <u>Proc. Natl. Acad. Sci. USA</u> 85:9484-9488 (1988).	
	C29	Wang et al., "Recombinant Human Bone Morphogenetic Protein Induces Bone Formation," <u>PNAS</u> 87:2220-2224 (1990).	
	C30	Weeks et al., "A Maternal mRNA Localized to the Vegetal Hemisphere in Xenopus Eggs Codes For A Growth Factor Related to TGF-B," <u>Cell</u> 51:861-867 (1987).	
	C31	Wozney et al., "Identification Through Molecular Cloning of Factors Involved in Vivo Cartilage Formation," <u>Calcified Tissue Int. (Suppl.)</u> Ab No. 147, A37 (1988).	
	C32	Wozney et al., "Novel Regulators of Bone Formation: Molecular Clones & Activities," <u>Science</u> 242:1528-1534 (1988).	
EXAMINER		DATE CONSIDERED	

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